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14 June 1956

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COMNAVGER

EAST GERMANY/VP-SEE Auxiliary Machinery Developments

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KRA VP-SEE is attempting to develop new auxiliary machinery and equipment such as a low-weight high-pressure boiler, an adjustable pitch propeller, light weight anchor, and splinter proof generators. Distillation plants will follow conventional designs. Other work on gauges, recorders, drive units, pipes and fittings, switches, distributions boxes is being carried out along conventional lines.

1. High-pressure steam-boiler ("Hochdruckdampfessel").

An engineer by the name of TILL employed with VEB DAMPFKESSELBAU MEERANE at MEERANE approached VP-SEE with respect to the development and possible construction of a small low-weight high-pressure steam-boiler. Herr TILL, fnu, was eventually asked to design and develop a boiler with the following specifications: capacity of 40 tons of steam per hour, requiring about 25% of the size and about 10% of the weight of a conventional BENSCH type boiler of similar capacity. Herr TILL had thought of fitting the boiler with a ("Verdichterturbine") as well as with a ("Abhitseturbine") the latter being built as a gas turbine and driving the first. ("Belastung") and temperatures in the combustion chamber will be rather high, 40 to 50 (atue) atmospheres. Designing and developing the boiler was done by Herr TILL at the above plant and was expected to be finished in 1956. A prototype boiler was planned to be built and tested at the plant in 1957. As yet no craft have been selected to be fitted with this boiler. The research project

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 was among those ordered and paid for by ZENTRALANT FUER FORSCHUNG UND ENT-
 WICKLUNG BEI DER STAATLICHEN KKKKKI PLANKOMMISSION on behalf of VP-SSE.
 300,000 East DM had been approved for 1956-work on the project. The above
 mentioned name is hereafter referred to as ZENTRALANT.

2. Adjustable pitch propeller type 4,500 ("Verstellpropeller 4,500")

Among Herr WITTMANN's (I.S.W. ABTEILUNG DRESDEN) favorite projects was designing and developing an adjustable pitch propeller. In order to get some help, WITTMANN had asked West-German adjustable pitch propeller plant ESCHER-YISE for data on theirs. However, it is assumed Herr WITTMANN had his own ideas about the operation of the propeller; for instance, he wanted to have the propeller work on an oil-pressure basis. It is assumed that WITTMANN had some personal experience in designing propellers. The research project was among those ordered and paid for by AMT FUER TECHNIK on behalf of VP-SSE. Two adjustable pitch propellers were planned to be built as prototypes. One of them is under construction; it is to be tested aboard a small 150-HP craft. Out of this 150-HP model, was another 4,500-HP model was planned to be developed as the 2nd prototype. It was to be developed especially for the 4,500-HP gas turbines planned to drive Hal-class submarine chasers.

3. Special anchor ("Spezialanker").

The only known special characteristic of this anchor is its low-weight. It was not known whether or not it will have a stock. Designing and developing the anchor was underway but not yet finished at I.S.W. at WOLGAST. The research project was among those ordered and paid for by AMT FUER TECHNIK on behalf of VP-SSE.

4. Diesels and generators for DC and AC ("Motoren und Generatoren fuer Gleich und Wechselstrom").

Special requirements for all these shipboard auxiliaries were that their casings should be welded throughout and not splinter ("splintern") when hit by missile or a part thereof. Data on the diesels and generators concerned are unknown. This research project was among those ordered and paid for by ZENTRALANT on behalf of VP-SSE. 300,000 East DM has been approved for 1956-work on the project.

5. Seawater distillation plant ("Destillierapparat Meerwasser n. Trinkwasser").

Although this research project had been ordered by VP-SSE directly and 10,000 East DM had been approved for 1956-work on the project, the order was cancelled as not being considered a "research" project. VP-SSE will have their distillation plants built following conventional designs.

6. Ventilator drive units ("Drehstromlueftermotoren")

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Ventilator air drive units designed for VP-SEA craft did not fit into ventilator pipes installed aboard the craft. VEB GALVANOTECHNIK was, therefore, ordered to design and develop new units fitting into the piping aboard. Designing is still underway. The units were to be operated with AC. The research project was among those ordered and paid for by ZENTRALANT on behalf of VP-SEA. 100,000 East DM had been approved for 1956-work on the project.

7. Fuel gauge ("Brennstoffmessuhr").

This research project was cancelled and necessary gauges will be bought from an unidentified HAMBURG plant instead. They were planned to be directly attached to fuel pumps aboard VP-SEA craft. Originally 20,000 East DM had been approved for 1956-work on the project which was among those ordered and to be paid for by ZENTRALANT on behalf of VP-SEA.

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8. Revolution gauge ("Kleinstdrehmaler").

Revolution gauges ("Umdrehungsanzeiger") presently in use aboard VP-SEA craft were too big and did not fit. They were probably built by RFT FUNKWERK KOPPENICK. The research project asked for smaller ones, electrically operated. RFT FUNKWERK KOPPENICK will probably design, develop, and build same. Prototype gauges were to be finished in 1956. This research project was among those ordered and paid for by ZENTRALANT on behalf of VP-SEA. 80,000 East DM had been approved for 1956-work on the project.

9. Revolution recorder for diesel engines. ("Drehzahlzeichner fuer Dieselmotoren").

This was no real research project. The recorders were just to be built by an unidentified plant as VP-SEA did not yet have them. No difficulties are expected. The order was placed and paid for by ANT FUNK TECHNIK on behalf of VP-SEA.

10. Thin-wall cast-steel-fittings and pipes ("Dünnwandige Stahlgussarmaturen und Stahlrohre").

Cast-steel fittings such as valves, slides, etc. and pipes, especially high-pressure steel pipes, made in SOVIET plants did not meet VP-SEA requirements as they are too thick and too heavy for shipboard usage. The new ones with thin walls and of low-weight were to be designed, developed, and built by VEB SANAR at MAGDEBURG. This research project was among those ordered and paid for by ANT FUNK TECHNIK on behalf of VP-SEA.

11. Copper-lined steel pipes ("Kupferplattierte Stahlrohre").

Such pipes as yet could not be made by SOVIET industry. Inside copper lining was required in order to have the pipes seawater-resistant. VEB SANAR at MAGDEBURG was also ordered to design, develop, and build above pipes.

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 This research project was among those ordered and paid for by AET PUSK
 TECHNIK on behalf of VP-SKK.

12. Switches.

A "Marine-Überstromschutzschalter - Schlossschalter" was to be designed anew. It was to become a spraywater-protected (indicated by the symbol F-35) switch with automatic operation. A "Messerschalter" and a "Marinepaket-schalter" were also to be designed anew; they were to be smaller than models already in use aboard VP-SKK craft. Another research project was designing a so-called "Dämmerschalter". This was a simple black-out switch attached to any door and operated whenever the door was opened. However, the latter project has been cancelled meanwhile as such switches were considered unsuitable for the small type of craft as operated by VP-SKK. For the above 4 research projects, 30,000, 30,000, 35,000, and 5,000 East DE respectively approved for 1956-work. All 4 projects were among those ordered and paid for by AENTHALANT on behalf of VP-SKK. Plants engaged in designing, developing, and building the switches were not known.

13. Fuse and distribution boxes for AC-systems ("Sicherungs & Verteiler-Kästen fuer Drehstromanlagen").

These were small switchboards for small VP-SKK craft. Plants in charge of designing, developing, and building same were not known. The research project was among those ordered and paid for by AENTHALANT on behalf of VP-SKK. 15,000 East DE had been approved for 1956-work on the project.

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